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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,438	01/31/2001	Dennis L. Salbilla	P02104US0/10100157	3287

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05/13/2008

EXAMINER

CHORBAJI, MONZER R

ART UNIT	PAPER NUMBER
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1797

MAIL DATE	DELIVERY MODE
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05/13/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/773,438	Applicant(s) SALBILLA, DENNIS L.	
	Examiner MONZER R. CHORBAJI	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,6,14,15,27,29-32 and 34-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5,6,14,15,27 and 29-31 is/are allowed.
- 6) ☒ Claim(s) 32 and 35-37 is/are rejected.
- 7) ☒ Claim(s) 34 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This non-final action is in response to the appeal brief filed on 05/21/2007

1. In view of the appeal brief filed on 05/21/2007, PROSECUTION IS HEREBY REOPENED. New ground of rejection sets forth below.

2. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

3. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797

Claim Objections

4. Claim 38 is objected to because of the following informalities: claim 38 depends on cancelled claim 33. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 32 and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Carson (U.S.P.N. 4,505,758).

Regarding claim 32, Carson discloses a method for processing a liquid hydrocarbon process stream (col.2, lines 12-15 and lines 56-60) that includes the following: initiating a process run of a liquid hydrocarbon process stream through a heat exchanger (in col.2, lines 56-60 where Carson applies electric charge to heat exchangers in the field of oil refineries where the flow of a liquid hydrocarbon process stream has been initiated), initiating an electric charge to process components (in col.3, lines 63-68 and col.4, lines 8-23, Carson provides an example of applying electrical charge to a heat exchanger receiving hydrocarbon liquid stream after being processed by hydrocracking apparatus), flowing the liquid hydrocarbon process stream through a heat exchanger (see col.3, lines 63-68 and col.4, lines 1-23 where liquid hydrocarbon product is

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flowing through a heat exchanger) having the electric charge applied thereto and while flowing the liquid hydrocarbon process stream continually apply constant electric charge (in col.2, lines 18-20 and col.3, lines 59-62 where electric current is continually applied over a time interval of less than 5 minutes) to the heat exchanger.

Regarding claims 35-36, Carson teaches applying electric current to the inlet header box that is considered the chassis (figure 1:1 and 14 where the inlet header box is the supporting frame for the heat exchanger structure).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carson (U.S.P.N. 4,505,758).

Carson does not limit his teachings to applying electric current to the tubes of cooler, but further adds that electrical leads are selectively placed on portions that are known to be susceptible to accumulation of deposits (col.3, lines 37-40). Furthermore, Carson describes that his invention is applied to other types of coolers (col.5, lines 14-16) without excluding others. The instant disclosure does not provide evidence of criticality to applying electrical current to the shell of a heat exchanger. Then, absent any evidence of criticality and based on Carson teachings applying electrical current to the shell of a heat exchanger is a matter of routine experimentation. It would have been obvious to one having ordinary skill in the art to apply the electrical charge to the shell of the heat exchanger, as it would be most easily connected to the power source. As heat exchangers are mostly conductive, such charge would clearly effect all parts of the heat exchanger, tubes and shell.

Allowable Subject Matter

10. Claims 1, 5-6, 14-15, 27 and 29-31 are allowed.

11. Claims 34 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

12. Applicant's arguments, filed in appeal brief dated 05/21/2007, with respect to the combination of Carson and Harms have been fully considered and are persuasive. The obviousness rejection of independent claims 1, 27 and 29 has been withdrawn. However, a response to other arguments is presented below.

On pages 9-10 of the argument section of the appeal brief dated 05/21/2007, Appellant argues that Carson does not teach a continuous or continual method for deposit prevention and that Carson applies electric current not electric charge.

Carson applies constant or continual or continuous electric current during a time interval (in col.2, lines 18-20 and col.3, lines 59-62 where electric current is continually applied over a time interval of less than 5 minutes) to a heat exchanger. The instant claims do not disclose a time range for applying the current. In addition, Carson discloses a method (col.2, lines 12-15) for reduction of fouling of process components with a liquid hydrocarbon stream oil refining plants (col.2, lines 56-60 and col.4, lines 8-11). Furthermore, Carson applies electric current that creates electric field having electric charges. Note that the definition of an electric current is the flow of electric charge. Therefore, Carson does apply applying electric charges to surfaces of heat exchangers.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R.

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CHORBAJI whose telephone number is (571)272-1271. The examiner can normally be reached on M-F 9:00-5:30.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. R. C./

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797